

ATTACHMENT 1

Scope of Services

CONCEPTUAL ROADWAY DESIGN SERVICES FOR THE ROUTE 606 INTERCHANGE AT ROUTE 50

General

Perform surveys and geotechnical investigations, prepare plan base mapping, and provide engineering services for the evaluation of alternative configurations of and conceptual design for the VA Route 606 (Loudoun County Parkway) interchange with US Route 50. Bicycle and pedestrian features shall be included in the conceptual design so that they are accommodated either within or in proximity to the planned interchange, as envisioned in the County's adopted Bicycle and Pedestrian Mobility Master Plan. ..

Project Management and Coordination

The Consultant's project manager shall monitor the progress of the project to ensure that the schedule is met and budget is maintained. This task also includes internal technical reviews, progress reports, requests for information, etc. The Consultant shall document all meetings, conferences, and information obtained by telephone and personal visits. Accurate notes and minutes shall be typed, reproduced, and mailed to the Project Manager within 5 working days. The Consultant shall concurrently submit all correspondence in electronic format (Word and/or Excel files).

Written documents, including estimates, design calculations and reports, shall be bound. The submittal title, project name, contract number, and date shall appear on or be visible through the cover. Each document shall include an opening summary or overview. The Consultant shall also provide an electronic format of all documents in Word and/or Excel.

The consultant may also be required to furnish data and materials to the County's Project Manager in support of public outreach efforts conducted by the County pertaining to the project. The cost for furnishing such data and materials shall be considered incidental to the project. The County may require the Consultant's project manager, or acceptable alternative representative, to attend community meetings pertaining to the project. A separate fee to defray the cost of this participation on a per occurrence basis may be included in the fee proposal portion of the applicant's response to this request.

DETAILED SERVICES

PHASE I PRELIMINARY DESIGN SERVICES

TASK 1 - Kickoff Meeting / Preliminary Field Review

The Consultant shall attend a kickoff meeting scheduled by the County of Loudoun. The purpose of this meeting will be to establish design requirements, schedules (including important milestones), and deliverables. During the meeting, other project design items will be discussed, including any drainage and anticipated community outreach activities, etc.

The Consultant shall also perform a field reconnaissance of the project with emphasis on evaluation of the existing roadway and traffic control features, drainage structures, etc.

TASK 2 - Field Surveys and Base Mapping

The Consultant shall be responsible for all topographic surveys, and the preparation of base mapping for the project area. The Consultant shall establish the exact limits of the mapping, and verify that all survey and base map information submitted is in accordance with the contract requirements and is suitable and adequate for the design.

The Consultant shall establish survey control in compliance with the VDOT survey manual. This will include recovering existing control and establishing new control monuments.

The Consultant shall be responsible for preparing the base maps, including preparation of planimetric and digital terrain model (DTM) data compilation.

The Consultant shall perform project geotechnical investigation, and prepare a geotechnical report and recommendations.

The Consultant shall perform necessary research of public records and field reconnaissance to obtain information to be shown on the base plans. The Consultant shall provide a list of the names and addresses of all property owners that may be affected by the survey. The County will notify each property owner that a survey crew may enter their property.

TASK 3 – Alternatives Analysis

The Consultant shall undertake a traffic study of the interchange area. A formal study scope shall be developed in consultation with OTS and VDOT staff and is to be authorized by the Project Manager and formally approved by VDOT. The traffic study shall adequately serve the existing and planned future traffic of the highways in a manner that is conducive to safety, durability, and economy of maintenance. To define the term "adequately serve", the traffic study should meet LOS D throughout. The traffic study will evaluate AM and PM peak period travel conditions for the years 2015 and 2030 and will be used to assess operating characteristics for alternative interchange configurations inclusive of all movements, as well as the interaction between interchange ramp movements and adjoining roadways and at grade intersections. OTS staff will make available projections from the County's travel forecast model to assist with this effort. The Consultant shall employ computerized modeling techniques acceptable to VDOT to simulate AM and PM peak period traffic operating conditions for the various alternatives considered for the years 2015 and 2030.

The Consultant shall undertake an evaluation of traffic safety issues in the interchange area. The limits of this study area are to coincide with the limits of the traffic study. The traffic safety study will make use of the three most recent years of accident data available from VDOT to assist in

identifying areas of concern. The Consultant shall also rely on engineering best practices, as well as input from OTS and VDOT staff in further detailing safety issues in the interchange area, as well as the relative benefit of alternative interchange configurations in improving these safety concerns.

The Consultant shall work with County staff to identify potential environmental or historic resource concerns within and adjacent to potential interchange limits of construction.

The Consultant shall do a comparative analysis of alternative interchange configurations. Such analysis will look at establishing acceptable levels of service throughout the interchange area, improving safety for all modes of travel, and avoiding impacts to sensitive resource areas. This comparative analysis is to be presented to the Project Manager for the development of a preferred alternative.

TASK 4 – Conceptual Design

The Consultant shall prepare and submit (8) eight full size and (3) three half size copies of a conceptual design (approximately 10% complete) for the improvements. The Consultant's design responsibilities shall include:

- Base mapping information from Task 2, inclusive of: property information, overhead and underground utilities, topography, drainage features, environmental considerations (e.g., potential wetlands), traffic control devices, pavement, bicycle & pedestrian features, existing structures, parking areas and associated free standing signs, and within and adjacent to existing rights-of-way and any other anticipated disturbed areas.
- Conceptual horizontal alignment of the Project.
- Identification of any conflicting utilities or development.
- Approximate location of any required drainage and stormwater management (SWM) features.
- Assumed limits of any initially required additional rights-of-way and additional eased property, as may be required with the nature of such easements identified.
- Approximate location of initially assumed limits of construction.

All elements of the conceptual design shall be prepared in conformance with applicable requirements of VDOT's Road Design Manual and Road and Bridge Standards, using the current version at the time of this work. The following types of design criteria would require formal endorsement of design exception by VDOT, if needed:

- Design Speed,
- Lane Width,
- Shoulder Width,
- Bridge Width,
- Structural Capacity,
- Horizontal Alignment,
- Vertical Alignment,
- Grade,
- Stopping Sight Distance,

- Cross Slope,
- Superelevation,
- Horizontal Clearance (other than the "clear zone"),
- Vertical Clearance, and
- Any Break in Limited Access Within 100 feet of Ramp Terminals.

Design exception procedures shall follow applicable state laws, regulations, and directives.